

U.S.S.N. 10/656,586

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CENTRAL FAX CENTER

APR 13 2007

Claim Amendments

Please amend claim 1 as follows:

Please cancel claims 4, 6-8, and 9-20 as follows:

Please add new claims 21-36 as follows:

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Listing of Claims

1. (currently amended) An apparatus comprising:

a process chamber having a substantially vertical chamber wall defining a chamber interior;

a showerhead provided in said process chamber and having a lateral surface engaging said chamber wall; and

a plurality of exterior fasteners extending through said chamber wall and into said showerhead, with an exterior of said plurality of exterior fasteners structurally substantially isolated from said chamber interior.

2. (original) The apparatus of claim 1 wherein each of said plurality of exterior fasteners comprises a fastener head and a threaded shank extending from said fastener head, and wherein said fastener head engages an exterior surface of said chamber wall.

3. (original) The apparatus of claim 1 further comprising a gas mix plate carried by said chamber wall above said showerhead.

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4. (canceled)

5. (previously presented) The apparatus of claim 1 further comprising a confinement ring provided in said process chamber beneath said showerhead.

Claims 6-20 (canceled)

21. (new) The apparatus of claim 1, wherein said showerhead comprises a plurality of fastener openings in said lateral surface of said showerhead each one of said fastener openings arranged to receive one of a corresponding one of said plurality of exterior fasteners.

22. (new) The apparatus of claim 22, wherein said plurality of fasteners and fastener openings are threaded.

23. (new) The apparatus of claim 1, where said plurality of exterior fasteners are arranged equally spaced from each other along a circumference of said chamber wall.

24. (new) An apparatus to reduce particle contamination to a process chamber interior comprising:

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a process chamber having a substantially vertical chamber wall defining a chamber interior;

a showerhead provided in said process chamber and having a lateral surface engaging said chamber wall; and

a plurality of exterior fasteners extending through said chamber wall and into said showerhead, with an exterior of said plurality of exterior fasteners substantially isolated from said chamber interior.

25. (new) The apparatus of claim 24 wherein each of said plurality of exterior fasteners comprises a fastener head and a threaded shank extending from said fastener head, and wherein said fastener head engages an exterior surface of said chamber wall.

26. (new) The apparatus of claim 24, wherein said showerhead comprises a plurality of fastener openings in said lateral surface of said showerhead each one of said fastener openings arranged to receive one of a corresponding one of said plurality of exterior fasteners.

27. (new) The apparatus of claim 26, wherein said plurality of fasteners and fastener openings are threaded.

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28. (new) The apparatus of claim 24, where said plurality of exterior fasteners are arranged equally spaced from each other along a circumference of said chamber wall.

29. (new) The apparatus of claim 24 further comprising a gas mix plate carried by said chamber wall above said showerhead.

30. (new) The apparatus of claim 24 further comprising a confinement ring provided in said process chamber beneath said showerhead.

31. (new) An apparatus to reduce particle contamination to a process chamber interior comprising:

a process chamber having a substantially vertical chamber wall defining a chamber interior;

a showerhead provided in said process chamber and having a lateral surface engaging said chamber wall; and

a plurality of exterior fasteners, each exterior fastener extending through a respective opening in said chamber wall and into a corresponding opening in said lateral surface such that an

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exterior surface of said plurality of exterior fasteners are substantially isolated from said chamber interior by abutment of said showerhead against said chamber wall.

32. (new) The apparatus of claim 31 wherein each of said plurality of exterior fasteners comprises a fastener head and a threaded shank extending from said fastener head, and wherein said fastener head engages an exterior surface of said chamber wall.

33. (new) The apparatus of claim 32, wherein said plurality of fasteners and fastener openings are threaded.

34. (new) The apparatus of claim 31, where said plurality of exterior fasteners are arranged equally spaced from each other along a circumference of said chamber wall.

35. (new) The apparatus of claim 31 further comprising a gas mix plate carried by said chamber wall above said showerhead.

36. (new) The apparatus of claim 31 further comprising a confinement ring provided in said process chamber beneath said showerhead.

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